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## BAYER CORPORATION

682095

PROJECT

Silane Aspartate

PROJECT NO.

NAME

C. Gambino

DATE

11-7-96

(PRINT)

REFERENCE:

OBJECTIVES:

Prepare Large batch of silane aspartate Pilot Plant batch

NB#682095

Continous Formulation Data System (V2.0) - Continous, ICD, Miles Inc.

Silane Aspartate  
Methoxyaspartate

Continous Formulation Data System (V2.0)

File: C601.FOR

# Raw Material	Eqwt	Percent Solids	Suppl. 1b/gal	Solvent 1b/gal	%	Cost \$/lb
1 Diphosphonate	172.10	100	8.81	0.00	0	0.00
2 Silane Aspartate	179.30	100	8.44	0.00	0	0.00

# Raw Material	Weight	Volume	Weight Solids	Volume Solids	CU
1 Diphosphonate	9050.47	1008.47	9050.47	1008.47	52.64
2 Silane Aspartate	9439.57	1118.47	9439.57	1118.47	52.64
3 Total	18500.00	2126.94	18500.00	2126.94	

Weight Solids, %	=	100.00	Weight/gallon	=	0.00
Volume Solids, %	=	100.00	NO:OH Ratio	=	0.00
Ratio Ratio	=	0.00	RI Ratio	=	NA
Ratio	=	0.00	NO:OH Ratio	=	0.00
			Cost, \$/gal	=	0.00

cps 25°C 9.3 cps

DAL  
11-7

Time

Temp

7:45  
9:00  
9:15  
9:33  
9:39  
9:48  
3:30  
3:00

18°C  
23.6°C  
23.8°C  
59°C  
65°C  
60°C  
60°C

Charged reactor with Silane Amine under N<sub>2</sub>  
Added DEM through addition funnel dropwise  
Addition was complete  
Started heating to 60°C  
Water cooling valve stuck closed  
Shifted to cool back down  
Shutdown of heating and poured out of reactor  
Check viscosity 9.3 cps at 25°C. Spindle #40 sec/gps

NIH # 15.3  
Unsaturation # 3188  
% Reaction 88.23  
Eqwt Theoretical 351.44  
Eqwt Measured 366.66  
Unsaturation # 3.24  
% Reaction 90.21

CONCLUSION:

11-8

EXPERIMENTER (signature)

Charles A. Gambino

DATE 11-7-96

READ AND UNDERSTOOD (signature)

DATE

WITNESSED (signature)

DATE

BAYER CORPORATION

682095

PROJECT

Silane Aspartate

PROJECT NO.

NAME

C. Cambiano

DATE

11-7-96

REFERENCE:

OBJECTIVES:

Prepare Large batch of silane aspartate Pilot Plant batch

Coatings Formulation Data System (V2.0) - Coatings, ICD, Miles Inc.

AB#682095

Silane Aspartate  
Methoxyethylene

11-06-1996 Chemist: cag

File: CAG1.FOR

# Raw Material

1 Diethylene glycol  
2 Silquest A-1110

Eqwt	Percent Solids	Suppl lb/gal	Solvent lb/gal	% Cost
172.10	100	8.81	0.00	0 0.00
179.30	100	8.44	0.00	0 0.00

# Raw Material

1 Diethylene glycol  
2 Silquest A-1110  
3 Total

Weight	Volume	Weight Solids	Volume Solids
9060.47	1028.43	9060.47	1028.43
9439.53	1118.43	9439.53	1118.43
18500.00	2146.86	18500.00	2146.86

Weight Solids, % = 100.00  
Volume Solids, % = 100.00  
P/B Ratio = 0.00  
PVC, % = 0.00

Weight/gallon = 8.62  
NCO:OH Ratio = 0.00  
Mix Ratio = NA  
VOC, lbs/gal = 0.00  
Cost, \$/gal = 0.00

cps 25°C 9.3 cps

Date

Time

Temp

1 Diethylmaleate  
2 Silquest A-1110  
3 Total

9060.47 1028.43 9060.47 1028.43  
9439.53 1118.43 9439.53 1118.43  
18500.00 2146.86 18500.00 2146.86

Weight Solids, % = 100.00 Weight/gallon = 8.42  
Volume Solids, % = 100.00 NCO:OH Ratio = 0.00  
P/B Ratio = 0.00 Mix Ratio = NA  
PVC, % = 0.00 VOC, lbs/gal = 0.00  
Cost, \$/gal = 0.00

CP 25°C 9.3 cps

DATE	Time	Temp	
1-7	7:30	18°C	Charged reactor with Silane Amine under N <sub>2</sub>
	7:45	23.6°C	Added DEM through addition funnel dropwise.
	9:00	23°C	Addition was complete
	9:15	59°C	Shutted heating to 60°C
	9:33	65°C	Water cooling valve stuck closed
	9:39	60°C	shutted to cool back down
	9:48	60°C	shut down of heating and poured out of reactor
	3:30		check viscosity 9.3 cps at 25°C sample #40 recaps
	3:00		NH # 153
			unsaturation # 388
			% Reaction 88.23
			Expt Theoretical 351.44
			Expt Measured 366.66
			viscosity # 3.24
			% Reaction 90.21

CONCLUSION:

11-8

PERIMENTER (signature)

Charles A. Hamling

DATE

11-7-96

READ AND UNDERSTOOD (signature)

DATE

WITNESSED (signature)

DATE

## BAYER CORPORATION

PROJECT

Silane Terminated Polyurethane

PROJECT NO.

NAME

K Henderson

DATE

2/6/01

(PRINT)

REFERENCE:

OBJECTIVES:

<u>Materials</u>	<u>EW</u>	<u>Amount</u> <u>g</u>	<u>Eg</u> <u>g</u>	<u>Eg</u> <u>Ratio</u>
① IPDI	110.91	126.77	1.143	2
② "9100" Polyol Supplied by Kurt Frisch Obtained from New Town Square OH # supplied = 8.75	641.43	366.47	0.571	1
③ XP-7139	366 269.17	269.17	0.571	1
④ T <sub>12</sub> (200 ppm) (dibutyl tin laurate)		.80		
⑤ Vinyl Trimethoxysilane		20.0		

TimeTempRemarks

10 am

20.1

A 5-L flask was charged @  
① The polyol was added.  
Stir, 1/2 purge added  
80g T<sub>12</sub> Turned heat  
to 60C

10:30 am

60C

NCO = .65% theoretical 6337

1 pm

60C

Added XP-7139

4:30 pm

60C

No NCO Remains per  
React IR

added 20g vinyl  
trimethoxysilane to  
stabilize stir ~ 20 min  
Pour 95. Deliver to  
D. Crawford

CONCLUSION:

VISC @ 25C 16,100 CPS

Sent for GPC

% water = 0.009

Delivered to Derek Crawford

EXPERIMENTER (signature)

Karen Henderson

DATE

2/6/01

READ AND UNDERSTOOD (signature)

Richard Roach

DATE

2/8/01

WITNESSED (signature)

**BEST AVAILABLE COPY****Desmophen XP 7139E**

\* - Required Entry for Requester

\*\* - Required Entry for Prod Mgr (Approver)

<b>Current Assignee:</b>	<b>File</b>
<b>Current Status:</b>	<b>Active XP Products</b>

<b>Doc Author:</b>	Phil Lunney
<b>Request Date:</b>	06/09/2000
<b>Date XP# Established:</b>	12/17/97
<b>* Business Development Group:</b>	Construction Materials
<b>* Notebook #'s:</b>	682095

**Product Information**

<b>Name:</b>	Desmophen XP 7139E
<b>XP Product Number:</b>	7139E
<b>**Product Code:</b>	xx029580
<b>* Product Family:</b>	Resins HGR - 803
<b>* Description:</b>	Silane functional Aspartate
<b>**Restricted to:</b>	
<b>Product Status:</b>	Other
<b>Link to ETL MSDS's:</b>	

**Typical Properties**

<b>* Eq. Weight =</b>	<b>351.4</b>	<b>to grams/equivalent</b>
<b>Viscosity =</b>	<b>10</b>	<b>to cps@ 25 °C</b>
<b>% Solids =</b>	<b>100%</b>	<b>to %</b>
<b>* Density =</b>		<b>to lbs/gal@ °C</b>
<b>or</b>		<b>to g/ml@ °C</b>
<b>* Flash Point =</b>	<b>°C,</b>	<b>Method</b>
	<b>°F</b>	
<b>Physical Form=</b>		
<b>NCO =</b>	<b>%</b>	<b>to %</b>
<b>Blocked NCO =</b>	<b>%</b>	<b>to %</b>
<b>% OH =</b>		<b>to</b>
<b>OH# =</b>		<b>to</b>
<b>Amine# =</b>		<b>to</b>

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Acid# =	
pH =	
Color,APHA =	maximum
Turbidity =	max.
%Water =	% Max.

**Key Personnel**

*Product Manager:	Heidi Ali/PITTS/PPD/US/BAYER
Product Steward:	Pete Schmitt/PITTS/PPD/US/BAYER
Research:	Richard Roesler/PITTS/PPD/US/BAYER
Technical:	Poli Yu/PITTS/PPD/US/BAYER

**Marketing Information**

* Background of the Development:	In-process intermediate for the preparation of silane functional polyurea/hydantoin
* Targeted Application Areas:	auto, industrial, maintenance
* Features/Benefits:	useful to incorporate moisture curing capability into polyurea
* TSCA Status:	PMN filed
** EINECS Status:	
DSL/NDL Status:	
* Secrecy Agreements:	
Patent Situation:	
** Competitive Products:	

**Management Information**

** Potential Volumes: (thousand's of lbs)	
** Recommended List Price (\$/lb)	
** Margin-2(%)	
** Manufacturing Price(\$/lb):	
** Capital Investment: (thousand's of \$)	

**Production Formula****NOTICE:**

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**The formulation and technical information included in this database are subject to the terms set forth in the License Agreement of July 29/October 4, 1985 between Bayer Corp. and Bayer AG.**

\* Research Contact for Formulation: Richard Roesler/PITTS/PPD/US/BAYER |

\* **Production Formula:**

[illegible]

Comments:	Must be aged at least two weeks before use.
Commercial Name:	
Attachments:	

### Edit History: